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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/629,979

07/30/2003

Alfred Hardy Sullivan JR.

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02/12/2007

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MANCHESTER, NH 03101

EXAMINER

STAICOVICI, STEFAN

ART UNIT

PAPER NUMBER

1732

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

02/12/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/629,979	Applicant(s) SULLIVAN ET AL.	
	Examiner Stefan Staicovici	Art Unit 1732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 18 and 21-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 18, 21-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Applicants' amendment filed November 27, 2006 has been entered. Claims 18 and 21-25 are pending in the instant application.

Claim Rejections - 35 USC §103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 18 and 21-24 are rejected under 35 U.S.C. 103(a) as obvious over Hus *et al.* (US Patent No. 6,926,856 B2) in view of Applicant's Admitted Prior Art (APA).

Hus *et al.* ('856) teach the claimed process for forming a trim panel including, providing a fabric material (see col. 6, line 61 through col. 7, line 15), applying a polyurethane foam as a backing layer onto said fabric layer by electromagnetic radiation bonding (without the use of adhesives or flame lamination) (see col. 7, lines 16-39) and injection molding a plastic substrate against said polyurethane foam layer to form said trim panel (see col. 5, lines 41-56). Further, Hus *et al.* ('856) teach that the foam backing layer prevents strike through of the injection molded plastic layer (see col. 7, lines 5-10), hence it is submitted that Hus *et al.* ('856) teach injection molding a plastic substrate onto said foam backing layer without the need of an additional barrier layer. Furthermore, it is submitted that because Hus *et al.* ('856) do not teach a frothing composition or a step of frothing, which require additional components,

that said polyurethane foam was applied in an unfrothed condition.

Regarding claim 18, although Hus *et al.* ('856) teaches polyurethane foam, Hus *et al.* ('856) does not specifically teach a polyurethane dispersion for preparing said polyurethane foam. However, the use of a polyurethane dispersion to make a polyurethane foam is well known as evidenced by APA which teaches that polyurethane dispersions are known for preparing polyurethane polymers that are applied as backing in a frothed or unfrothed condition (see page 2, lines 17-24). Therefore, it would have been obvious for one of ordinary skill in the art to provide a polyurethane dispersion as taught by Hus *et al.* ('856) to prepare the polyurethane foam backing in the process of Hus *et al.* ('856) because of known advantages that polyurethane dispersions provide such as, ease of storage and handleability, known process parameters, improved temperature resistance and adhesion and also, because of its well known status.

In regard to claims 21-22, Hus *et al.* ('856) teach a woven or a knitted fabric (see col. 6, lines 66-67).

Specifically regarding claim 23, Hus *et al.* ('856) teach a density of 20-75 kg/m³ (0.02-0.075 g/cm³).

Regarding claim 24, although Hus *et al.* ('856) in view of APA do not teach a specific thickness of the polyurethane foam layer, Hus *et al.* ('856) teaches that the density depends on the thickness and the desired degree of cushion or compression desired (see col. 7, lines 30-35). Hence, it is submitted that the thickness is a result-effective variable. Therefore, it would have been obvious for one of ordinary skill in the art to use routine experimentation to determine an optimum thickness of 2.6-51.3mm in the process Hus *et al.* ('856) in view of

APA because Hus *et al.* ('856) specifically teaches that the density depends on the thickness and the desired degree of cushion or compression desired, hence teaching that the thickness is a result-effective variable.

4. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hus *et al.* (US Patent No. 6,926,856 B2) in view of Applicant's Admitted Prior Art (APA) and in further view of EP 0 361 856 A2.

Hus *et al.* ('856) in view of APA teaches the basic claimed process as described above.

Regarding claim 25, although Hus *et al.* ('856) in view of APA teach a fabric, Hus *et al.* ('856) in view of APA do not teach a fabric having a specific weight of 100-950 g/m². It is noted that Hus *et al.* ('856) in view of APA teach a process for making trim covers (see col. 1, lines 52 of Hus *et al.* ('856)). EP 0 361 856 A2 teaches that the fabric for making a seat cover (trim cover) has a weight of at least 380 g/m² (see Abstract). Therefore, it would have been obvious for one of ordinary skill in the art to have provided a fabric having a weight of 380 g/m² as taught by EP 0 361 856 A2 to make the trim cover by the process of Hus *et al.* ('856) in view of APA because, EP 0 361 856 A2 teaches that such a fabric provides for superior abrasion and snag resistance, hence providing for an improved product and also because all references teach similar end-products, hence suggesting similar materials and desired properties.

5. Claims 18 and 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gribble *et al.* (US 2004/0109992) in view of Applicants' Admitted Prior Art (APA) and in further view of Hus *et al.* (US Patent No. 6,926,856 B2).

Gribble *et al.* (US 2004/0109992) teach the basic claimed process for forming products for vehicle interiors, such as a seat cushion or a headrest, including providing a fabric substrate

(cloth), applying a polyurethane dispersion that adheres to said fabric without the need of adhesives of flame lamination and heating said polyurethane dispersion to form a foam backing layer having a density of 0.035-0.16 kg/m³ and a thickness of 3.6 mm (see Abstract and, paragraphs [0002], [0012] and [0071]). Further, Gribble *et al.* (US 2004/0109992) teach hot lamination molding of a polyethylene film (plastic substrate) directly to said foam-backing layer without the need of a non-permeable layer (see paragraphs [0007] and [0011]).

Regarding claim 18, although Gribble *et al.* (US 2004/0109992) teaches polyurethane foam, Gribble *et al.* (US 2004/0109992) does not specifically teach an unfrothed polyurethane dispersion for preparing said polyurethane foam. However, the use of a unfrothed polyurethane dispersion to make a polyurethane foam is well known as evidenced by APA which teaches that frothed and unfrothed polyurethane dispersions are equivalent alternatives for preparing polyurethane polymers that are applied as backing (see page 2, lines 17-24). Therefore, it would have been obvious for one of ordinary skill in the art to provide an unfrothed polyurethane dispersion as taught by APA to prepare the polyurethane foam backing in the process of Gribble *et al.* (US 2004/0109992) because of known advantages that an unfrothed polyurethane dispersions provide such as, ease of storage and handleability, known process parameters, improved temperature resistance and adhesion and also, because APA specifically teaches that frothed and unfrothed polyurethane dispersions are equivalent alternatives for preparing polyurethane polymers that are applied as backing.

Further regarding claim 18, although Gribble *et al.* (US 2004/0109992) teach laminating a polymeric film to said foam backed fabric, Gribble *et al.* (US 2004/0109992) in view of APA does not teach injection molding a plastic layer to said foam backed fabric. Hus *et al.* ('856)

teach a process for forming a trim panel including, providing a fabric material see col. 6, line 61 through col. 7, line 15), applying a polyurethane foam as a backing layer onto said fabric layer by electromagnetic radiation bonding (without the use of adhesives or flame lamination) (see col. 7, lines 16-39) and injection molding a plastic substrate against said polyurethane foam layer to form said trim panel (see col. 5, lines 41-56). Further, Hus *et al.* ('856) teach that the foam backing layer prevents strike through of the injection molded plastic layer (see col. 7, lines 5-10), hence it is submitted that Hus *et al.* ('856) teach injection molding a plastic substrate onto said foam backing layer without the need of an additional barrier layer. Therefore, it would have been obvious for one of ordinary skill in the art to injection mold a plastic substrate as taught by Hus *et al.* ('856) over the foam covered fabric layer in the process of Gribble *et al.* (US 2004/0109992) in view of APA because, Hus *et al.* ('856) teach a more efficient process that results in molding improved products that have good appearance, precise dimensions and stable cross sections (see col. 1, lines 5-55). It is noted that, because Hus *et al.* ('856) teach that the foam backing layer prevents strike through of the injection molded plastic layer (see col. 7, lines 5-10), then it is submitted that the purpose of the polyurethane dispersion foam layer in the process of Gribble *et al.* (US 2004/0109992) in view of APA and in further view of Hus *et al.* ('856) is also to avoid any strike-through of the injected plastic material. As such, it is further submitted that said polyurethane dispersion foam layer does not allow strike-through of the injected plastic substrate in order for the invention of Gribble *et al.* (US 2004/0109992) in view of APA and in further view of Hus *et al.* ('856) to function as described.

In regard to claims 21 and 22, Hus *et al.* ('856) teach a woven or a knitted fabric (see col. 6, lines 66-67). Gribble *et al.* (US 2004/0109992) teaches using a fabric in making products

for vehicle interiors, such as a seat cushion or a headrest (see paragraph [0002]), whereas Hus *et al.* ('856) a trim panel component. Therefore, it would have been obvious for one of ordinary skill in the art to have provided a woven or a knitted fabric as taught by Hus *et al.* ('856) in the process of Gribble *et al.* (US 2004/0109992) in view of APA because of known advantages that a woven or knitted fabric provides such as a more comfortable feel, hence providing for an improved product and also because, Gribble *et al.* (US 2004/0109992) teaches using a fabric, hence suggesting the woven or a knitted fabric of Hus *et al.* ('856). Also, it is noted that both Gribble *et al.* (US 2004/0109992) and Hus *et al.* ('856) teach similar end-products, hence suggesting the use of similar materials.

Specifically regarding claims 23 and 24, Gribble *et al.* (US 2004/0109992) teach that said polyurethane dispersion foam backing layer has a density of 0.035-0.16 kg/m³ and a thickness of 3.6 mm (see Abstract and, paragraphs [0002], [0012] and [0071]).

6. Claims 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gribble *et al.* (US 2004/0109992) in view of APA and in further view of Hus *et al.* (US Patent No. 6,926,856 B2) and EP 0 361 856 A2.

Gribble *et al.* (US 2004/0109992) in view of APA and in further view of Hus *et al.* ('856) teaches the basic claimed process as described above.

Regarding claim 25, although Gribble *et al.* (US 2004/0109992) in view of APA and in further view of Hus *et al.* ('856) teach a woven or knitted fabric, Gribble *et al.* (US 2004/0109992) in view of APA and in further view of Hus *et al.* ('856) do not teach a fabric having a specific weight of 100-950 g/m². It is noted that Gribble *et al.* (US 2004/0109992) in view of APA and in further view of Hus *et al.* ('856) teach a process for making products for

vehicle interiors, such as a seat cushion. EP 0 361 856 A2 teaches that the fabric for making a seat cover has a weight of at least 380 g/m^2 (see Abstract). Therefore, it would have been obvious for one of ordinary skill in the art to have provided a fabric having a weight of 380 g/m^2 as taught by EP 0 361 856 A2 to make the seat cushion by the process of Gribble *et al.* (US 2004/0109992) in view of APA and in further view of Hus *et al.* ('856) because, EP 0 361 856 A2 teaches that such a fabric provides for superior abrasion and snag resistance, hence providing for an improved product and also because all references teach similar end-products, hence suggesting similar materials and desired properties.

Response to Arguments

7. Applicant's arguments filed November 27, 2006 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stefan Staicovici, Ph.D. whose telephone number is (571) 272-1208. The examiner can normally be reached on Monday-Friday 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson, can be reached on (571) 272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1732

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Stefan Staicovici, PhD



Primary Examiner

2/7/07

AU 1732

February 7, 2007